

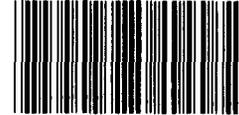


United States  
General Accounting Office  
Washington, D.C. 20548

Information Management and  
Technology Division

B-249347

August 18, 1992



147365

The Honorable Richard B. Cheney  
The Secretary of Defense

Dear Mr. Secretary:

This report describes the results of our risk assessment of the Navy and Air Force's multiagency database machine acquisition.<sup>1</sup> We identified potential risks to the acquisition's cost, schedule, and ability to meet user needs, employing our recently developed risk assessment methodology, which incorporates critical factors identified in our model of the information technology acquisition process.<sup>2</sup> This methodology is designed to provide an early warning to agency management of potential risks so that they can take timely action to address them.

We selected this acquisition for review because of its large cost--estimated in excess of \$400 million over its 8-year contract life--and because it is in an early stage in the procurement cycle, where corrections are easier to make. Our review focused on agency actions to identify user requirements, develop system specifications, prepare a solicitation document, and design a plan for evaluating vendor proposals. Details of our objectives, scope, and methodology are discussed in enclosure I.

RESULTS IN BRIEF

Procurement officials in the database machine acquisition involved users extensively in developing system

<sup>1</sup> A database machine manages data, including storage, retrieval, and processing. The machine offers a fast and efficient way to process large amounts of data.

<sup>2</sup> Information Technology: A Model to Help Managers Decrease Acquisition Risks (GAO/IMTEC 8.1.6, August 1990).

GAO/IMTEC-92-70R, Database Machine Procurement

055190/147365

specifications and evaluation criteria for assessing vendor proposals, and in ensuring that user requirements were properly described in the solicitation document. Vendor comments were also considered, as appropriate, to further refine these system specifications.

We identified four key areas, however, that posed risks to the acquisition. First, the Navy had not formally notified the General Services Administration (GSA) of program changes, such as a 13-month delay in contract award and an increase in maximum order quantities, thus risking acquisition delays until GSA approved the changes. Second, the Navy planned to monitor agencies' ordering activities by relying on contractor-prepared monthly production and delivery reports. However, our concern was that these reports may not be timely enough to ensure that the contracts' maximum order quantities are not exceeded. Third, the decision to transfer a key program official during a critical part of the acquisition cycle would have disrupted the continuity of the acquisition. Finally, the source selection evaluation board, which will evaluate proposals for the acquisition, initially did not possess the right mix of skills to effectively evaluate those proposals.

The Navy and Air Force acted quickly to correct each deficiency. However, to ensure that the acquisition is successfully implemented, the Air Force will have to manage the acquisition carefully through contract award and the Navy will have to carefully oversee the acquisition after the contract is awarded.

#### BACKGROUND

Under the direction of the Navy, the Air Force is managing the database machine procurement to meet the specific database needs of several federal agencies.<sup>3</sup> To fulfill these needs, the Air Force expects to contract for a combination of small, medium, and large machines.

---

<sup>3</sup> The Navy has overall program management responsibility for the database machine acquisition. In 1989 the Air Force was assigned responsibility for managing the acquisition and awarding the contract. The Navy will assume contractual responsibility after the contract is awarded.

This strategy could result in the awarding of up to three indefinite delivery, indefinite quantity contracts.<sup>4</sup> Table 1 shows the minimum and maximum order quantities established for each size of machine.

Table 1: Minimum and Maximum Database Machine Order Quantities

Machine Size	Minimum Order Quantity	Maximum Order Quantity
Small	1	62
Medium	3	119
Large	3	35
Total	7	216

The Army, Navy, Air Force, Defense Information Systems Agency, Defense Logistics Agency, and Internal Revenue Service are participating in the acquisition, and will be able to order up to the maximum number of units established by these contracts. Other federal agencies will also be allowed to order database machines under these contracts as long as their orders are within the maximum order limitations and do not exceed 10 percent of the total contract value.

The database machine acquisition was initiated in 1987. The Air Force subsequently became the acquisition agency for this procurement in December 1989. The solicitation document was released to vendors almost 2 years later in October 1991, and vendors' proposals were received by June 4, 1992.

The acquisition was delayed by both Navy and Air Force reorganizations and a vendor protest. The Navy changed program approval responsibilities during 1990. The Air Force downsized its acquisition agency and realigned the agency under another Air Force unit in October 1991. In

---

<sup>4</sup> Indefinite delivery, indefinite quantity contracts are used when government agencies anticipate having recurring requirements, but can only predetermine the minimum quantity to be ordered. The government's obligation is limited to the minimum quantity.

December 1991 a vendor protest challenged the criteria for evaluating vendor performance. This protest was resolved in the government's favor in March 1992.

### CRITICAL ACQUISITION ISSUES

Our acquisition model identifies critical factors that should be addressed to help managers decrease acquisition risks. Such factors include (1) actively involving users to ensure that their needs are met, (2) obtaining amended delegation of procurement authority from GSA in time to prevent contract delays, (3) establishing effective controls over contracts to ensure that they are adequately administered, (4) maintaining the continuity of capable project managers to ensure that acquisitions proceed according to plan, and (5) using experienced, qualified staff to manage the acquisition. A discussion of the risks and actions taken to address them follows.

#### User Participation in Formulating System Requirements

Procurement officials took several actions to ensure early and continuous user involvement in defining requirements and developing system specifications. In a 1988 user survey, the Navy established a need for database machines and identified requirements for connecting them to government-owned computers. In 1989 the Navy involved participating agencies in several technical meetings to develop draft database machine specifications. These specifications were validated in an October 1989 user survey.

Users also participated in validating the solicitation document by helping the Air Force respond to vendor questions that requested clarification and changes to test procedures and system requirements. Further, users participated in quarterly Navy meetings to address the adequacy of the specifications, establish and review milestone dates, and resolve other acquisition issues. Air Force program officials plan to continue involving users in the acquisition through contract award. According to user representatives from the six participating agencies, the database machine specifications reflect their requirements and they are satisfied with the opportunities given them to participate in the acquisition.

Amending GSA's Delegated  
Procurement Authority

GSA either authorizes federal agencies to acquire their own automated information processing systems or contracts for such resources on their behalf. To procure a system costing more than \$2.5 million, federal agencies are required to obtain a delegation of procurement authority from GSA and to meet the terms of the authority during the procurement process. Further, in granting the authority, GSA cautions agencies that if material changes occur, such as significant delays in awarding the contract, the agencies have to obtain GSA approval for an amended authority. Failure to promptly apply for an amended authority can delay an acquisition if the agency waits to inform GSA of needed changes at required program briefings. At that time, GSA would have to assess such changes.

GSA granted the Navy procurement authority to acquire database machines in June 1991. Contract award dates for this acquisition were later changed significantly from November 1991 to December 1992. Although program officials notified GSA of these changes, they had not petitioned GSA to amend their delegation of procurement authority. When we brought this issue to Navy officials' attention, they agreed that the delayed contract award dates were significant and petitioned GSA to amend the Navy's procurement authority. This amendment is expected to authorize revised contract award dates and other program revisions, such as changes in maximum order quantities and updated information on key acquisition personnel.

Better Controls for  
Monitoring Contract Orders

Managers of indefinite delivery, indefinite quantity contracts must ensure that agency purchases remain within the contracts' established minimum and maximum order quantity limitations. Failure to do so may violate the terms of the contract and can result in claims being filed against the ordering agencies. The government is committed to buying the minimum number of machines specified by the contract, and agencies are specifically precluded from ordering units that exceed the maximum order quantities.

Program officials planned to use contractors' monthly production and delivery reports, required to be submitted

to the Navy 15 days after the end of the reporting month, to monitor agencies' purchases against the maximum order quantity ceilings. However, the Navy will not have adequate control if it relies on these reports because they are provided to the Navy at least 2 weeks after orders are placed. Further, an April 1992 GSA study describing lessons learned in managing indefinite delivery, indefinite quantity contracts stated that government agencies cannot rely exclusively on contractor-provided information on orders placed against those contracts because the data in some cases are not timely.

On the basis of our discussions, the Navy decided to establish improved controls for monitoring orders. The project manager said she will amend the solicitation document to require that (1) agencies send copies of their orders to the program office, and (2) vendors immediately notify the program office when they have accepted agency orders. We agree with Navy officials that these changes will help them control the orders and prevent the maximum order quantities from being exceeded.

Management Continuity for  
Successful Acquisitions

Management and staff continuity is important to ensure that acquisitions proceed according to plan. The Air Force acquisition manager's role is particularly important, as this person is responsible for overseeing the evaluation of vendor proposals and the award of contracts. Thus, it is essential to maintain continuity in the acquisition manager's position during those critical decision points in the acquisition process.

The current acquisition manager, who was assigned to the program in November 1991, is experienced and qualified. Officials of the participating agencies complimented him on his skills and expertise. According to these agency officials, he has excellent technical qualifications and has contributed significantly to the acquisition.

This past April, however, the Air Force decided to ~~transfer this officer overseas~~, effective in August 1992. Rather than accept the transfer, the acquisition manager chose to retire. We were concerned that the timing of this transfer/retirement decision would disrupt the management continuity of the procurement. A new acquisition manager would have to oversee the evaluation of vendor proposals and the award of contracts, scheduled

for December 1992. The current acquisition manager acknowledged the risk to project continuity and agreed that the learning curve for a new acquisition manager would be extensive and that this change would further delay the acquisition. Program officials agreed that it is critical for the acquisition manager to remain with the program until the contracts are awarded. In June 1992, the Air Force extended the acquisition manager's retirement date to April 1, 1993, about 3 months after the planned contract award.

Staffing the  
Proposal Evaluation Team

Air Force regulations support our model's position that it is important to use experienced, qualified staff to manage the acquisition. According to Air Force regulations, the source selection evaluation boards should be comprised of personnel who collectively possess the professional skills and knowledge needed to ensure the effective technical assessment of proposals. In April 1992, the board for the database machine acquisition did not, however, have the proper mix of technical team members to ensure a high-quality, timely assessment of vendor proposals. The Air Force acquisition manager agreed that the quality and timeliness of the proposal evaluation could be adversely affected unless an adequate technical team was assembled. By May 1992, participating agencies had collectively assigned the people needed to technically evaluate vendor proposals.

CONCLUSIONS

Success with the database machine acquisition requires that the Navy and Air Force act responsibly to manage and control inherent acquisition risks. The Navy and Air Force have done an excellent job of mitigating the risk of obtaining equipment that would not meet users' needs. Particularly noteworthy was their involvement of potential system users in identifying and validating the database machine requirements. Throughout the audit, agency officials recognized the importance of addressing the acquisition risks we identified and promptly acted to resolve each of them.

By taking such actions, program officials have mitigated risks to the acquisition's success. However, these actions alone do not guarantee an efficient and effective procurement. To ensure its successful implementation the

B-249347

Air Force will have to manage the acquisition carefully throughout the contract award phase, and the Navy will have to manage it carefully after contract award.

- - - - -

We conducted our review between December 1991 and July 1992, in accordance with generally accepted government auditing standards. We discussed a draft of this letter with appropriate Defense officials, including the primary action officer within the Directorate for Program Oversight, Office of the Assistant Secretary of Defense for Command, Control, Communications and Intelligence. These officials generally agreed with our facts and we incorporated their comments as appropriate.

We are sending copies of this letter to the Secretary of the Navy, the Secretary of the Air Force, appropriate House and Senate committees, and will provide copies to others upon request. Should you have any questions about this letter or require additional information, please contact me at (202) 512-6406. Major contributors are listed in enclosure II.

Sincerely yours,



Jack L. Brock, Jr.  
Director, Government Information  
and Financial Management

OBJECTIVES, SCOPE, AND METHODOLOGY

We reviewed the Navy's database machine acquisition to identify potential risks that could affect the system's cost, schedule, or ability to meet user needs. A second objective was to test a risk assessment methodology we recently developed. We considered two significant issues in choosing to review this acquisition. First, its estimated cost exceeds \$400 million over its 8-year contract life. Second, the acquisition is in the early stage of the procurement cycle, making it easier to quickly address any risks before the contract is awarded.

We performed our work at the Electronic Systems Division<sup>4</sup> at Hanscom Air Force Base in Massachusetts; the Naval Computer and Telecommunications Command in Washington, D.C.; the Defense Information Systems Agency in Sterling, Virginia; the Defense Logistics Agency in Alexandria, Virginia; the Internal Revenue Service in Falls Church, Virginia; and the Departments of Air Force and Army at the Pentagon in Arlington, Virginia.

We focused our work on agency efforts to identify user needs, develop system specifications, prepare a solicitation document, and design a plan for evaluating the proposals. We used our acquisition model<sup>5</sup> to assess whether the acquisition had any major risks that needed to be addressed. We also referred to provisions of the Federal Acquisition Regulation and the Federal Information Resources Management Regulation.

We interviewed Navy and Air Force program officials, as well as officials from each of the other four participating agencies. We also discussed program oversight with representatives from the General Services Administration, Naval Information Systems Management Center, Air Force Systems Command,<sup>6</sup> and the office of the Assistant Secretary of the Air Force for Acquisitions. We examined key project planning documents, program correspondence, and other relevant reports and records provided to us. Also, we judgementally selected and assessed how well the Air Force had addressed comments from two of nine potential vendors who made inquiries to both draft and final solicitation documents.

---

<sup>4</sup> Now called the Electronic Systems Center.

<sup>5</sup> Information Technology: A Model to Help Managers Decrease Acquisition Risks (GAO/IMTEC 8.1.6, August 1990.)

<sup>6</sup> Now called the Air Force Materiel Command.

MAJOR CONTRIBUTORS TO THIS REPORT

INFORMATION MANAGEMENT AND TECHNOLOGY DIVISION, WASHINGTON, D.C.

Mark E. Heatwole, Assistant Director  
David R. Turner, Assignment Manager

OFFICE OF THE GENERAL COUNSEL

Jerold D. Cohen, Assistant General Counsel

BOSTON REGIONAL OFFICE

Frederick R. Cross, Jr., Regional Management Representative  
Morgan J. Donahue, Evaluator-In-Charge  
Joan T. Mahagan, Staff Evaluator  
Bruce H. Holmes, Senior Technical Advisor

(510779)